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MOTION PICTURES

OF THE
U·S·DEPARTMENT
OF AGRICULTURE

A LIST OF FILMS AND THEIR USES



MOTION PICTURES AND AGRICULTURE.

MOTION PICTURES have proved their effectiveness in making common property of knowledge developed by investigations of the United States Department of Agriculture, and in acquainting the public with the methods and significance of important lines of work being carried on by the department.

Many field workers of the department and the cooperating State agricultural colleges and other institutions are using the department's films with increasing frequency.

To bring about wider and more effective use of the department's films and to tell some helpful facts to workers unacquainted with mechanics of motion pictures are the primary objects of this booklet, which also is designed to tell how department films are made available to the general public and to institutions not directly connected with the department or the agricultural extension system.

This booklet includes a complete list of available department films. Supplementary lists will be issued quarterly, beginning October 1, 1920. Persons who wish to receive these supplementary lists, as well as revisions of this booklet, should make immediate application to the Division of Publications, United States Department of Agriculture.

Contribution from the Division of Publications

EDWY B. REID, Chief

Washington, D. C.

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MOTION PICTURES

OF THE U. S. DEPARTMENT OF AGRICULTURE.

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IN JULY, 1920, the motion-picture films of the United States Department of Agriculture include 112 agricultural subjects. The number of reels available for distribution is 460, or more than 460,000 feet of film. All of this film is in circulation, most of it constantly. In the



A country home setting used in a department motion picture.

last 12 months more than 700,000 persons witnessed showings of one or more department films. Thus the motion picture—yet in its infancy, but constituting one of the most important industries in the United States—is being used for better farming.

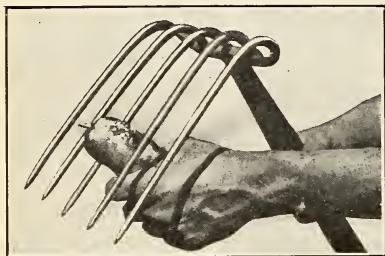
Many Uses for Films.

Here are instances of ways in which Department of Agriculture motion pictures are being used:

A county agent projects the film, "Construction of a Wooden Hoop Silo," before a farm bureau meeting, and he shows in 15 minutes what would require a full day to demonstrate.

A home demonstration agent projects "The Home Demonstration Agent," and rouses a rural community to the benefit that will come from organized woman's work.

A Bureau of Animal Industry inspector overcomes opposition to cattletick eradication by showing "The Charge of the Tick-Brigade," supplementing that film with "Making the South Tick Free," and enlists effective cooperation in hog-cholera eradication by use of the film, "Control of Hog Cholera."



How the leak disease of potatoes is started, as shown in a film.

Forest Service men use several films in safeguarding the woodlands from fire, and in showing visually the evils of bad lumbering and the benefits of good lumbering.

Agricultural colleges and high schools exhibit "Grazing Industry on the National Forests" or "Selecting a Laying Hen," giving their

students ideas that could not otherwise be obtained except at the expenditure of much time and money.

Chambers of commerce and other local commercial organizations are shown "Cotton's Worst Enemy—the Pink Bollworm," and thus are caused to enlist in the campaign against this dangerous insect.

Churches project "Embryology of the Egg" and give their children and older people as well a new idea of how life begins.

Dairy organizations obtain the use of "Why Eat Cottage Cheese," and through it establish new consumers of a skim-milk product that formerly was wasted.

"Home Gardening" is used in community campaigns to make back yards and waste places produce food.

These are only a few instances of what may be done—and has been done—with motion pictures, the comparatively new adjunct in agricultural extension and field work. The instances may be multiplied to a number and variety governed only by local needs and conditions and by the enterprise of the field workers in taking advantage of the films that have been made primarily for their use.

How Films Are Distributed.

The films produced by the United States Department of Agriculture are intended primarily for the use of extension and field workers of the department and of officially cooperating institutions. The number of copies of these films which the department is able to supply is at present inadequate to meet demands from other sources. However, others desiring to borrow films may make application through their county agent, or other department field worker, the director of extension of their State agricultural college, or other officially cooperating agency, and the films can be furnished if not in use.

Films are furnished free of charge except for transportation, which the borrower is required to pay.

Application for films should be made as far in advance as possible and should indicate, if practicable, several choices of subjects and periods of time, in the order of their preference. Periods of loans should be made as short as practicable. Schedules of proposed showings should accompany applications. Because of the large demand for the department's motion pictures, it is imperative that film be kept in constant use.

Film Circuits Desirable.

The Department of Agriculture has found that the showing of films on circuits makes it possible to get the maximum service from the pictures. It therefore favors the organization of circuits over which its films may be distributed. In such circuits county agents, home demonstration agents, club leaders, bureau field men, or any other class of department or State extension workers may be organized and films may be routed from one to the other. It is essential in such cases for some responsible person to act as the agent for the entire circuit. Arrangements should be made with the department by this person. The films will be sent to him and he will be expected to return them in good condition to the department.



Several department films depict household methods.

The circuit plan is subject to many variations and much development. The department is glad to cooperate with any State agricultural college or other State or Federal institution in arranging such circuits and in preparing programs of films that may be routed in this manner.

How to Purchase Department Films.

Because of the insistent demand for copies of its films, the department has made arrangements whereby individuals or organizations authorized by the department to make such purchases may buy single prints of department films from a commercial manufacturer at the following prices, which were obtained in competitive bidding:

On standard-width inflammable stock, 4 cents a foot, or about \$40 for the standard reel of 1,000 feet.

On standard-width slow-burning stock, $5\frac{1}{4}$ cents a foot, or about \$53 for a thousand-foot reel.

On narrow-width slow-burning stock, 6 cents a foot, or about \$60 for a thousand-foot reel.

When more than one copy of the same subject is purchased at the same time by the same person, the prices to be charged are as follows:

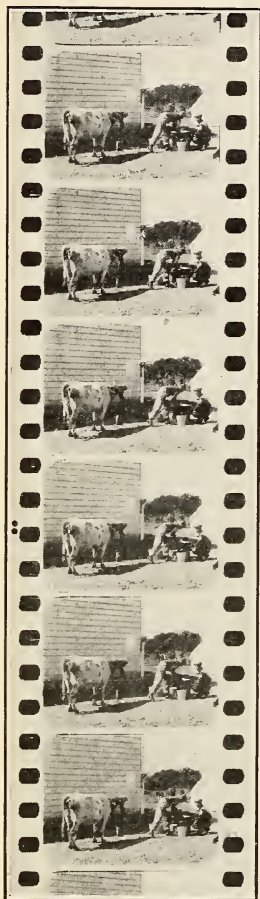
On standard-width inflammable stock, $3\frac{3}{4}$ cents a foot.

On standard-width slow-burning stock, 5 cents a foot.

On narrow-width slow-burning stock, 6 cents a foot.

This arrangement has given State agricultural colleges, public-school systems, farmers' organizations, boards of trade—organizations of every sort—an opportunity to establish or add to their film libraries. It is required that the subject matter of the film shall not be changed and that credit to the department shall be retained. When prospective purchasers desire to view department pictures, arrangements will be made for projection in the laboratory in Washington, or, when possible, the films will be shipped for projection elsewhere.

This arrangement is also open to commercial film distributing companies and to business houses under the conditions noted above.



Standard motion picture film is $1\frac{3}{8}$ inches wide. Each image is 1 inch wide by $\frac{3}{4}$ inch high. There are 16 images—or frames—to the foot, and about 16,000 in the ordinary reel. The perforations on the side are used in moving the film through the projector.

How Films Can Be Exhibited.

Use of films depends upon the availability of a projector, which in turn depends upon electric current. Electric current is essential, because no light other than electric light furnishes the strong illumination required for satisfactory results on the screen. It is possible, however, by the use of small generating plants, to produce current in localities where no current is manufactured commercially.

There are three classes of projectors. The first includes the large and perfected machines found in the best theaters. Many schools and churches are installing them for permanent use.

At the other extreme is the portable projector—so small and light that it can be carried from place to place like any other piece of baggage. In most cases the portable projectors give good service, although, of



A film scene showing sheep being counted as they enter a National Forest for grazing.

course, the wear and tear that comes from being moved about must be considered.

Between the large machines and the portable projectors are the semiportables—not so heavy as the large projectors and more substantial than the portable or “suit-case” machines. The semiportables can be dismantled, packed in a box or trunk, moved to the next place of service, and made ready for work in a short time.

Projector prices in June, 1920, ranged from a few dollars more than a hundred for a small portable machine to approximately \$500 for the large theater machines. Extra attachments increase the cost.

The extension worker or other person desiring to purchase a projector will be governed by his needs as well as by the money he can spend. If he wants to cover a wide territory and give frequent exhibitions in



Between the camera and the projector are several important processes that the ultimate consumer does not have to worry about.

different places, he will need a portable machine. If he wishes to give less frequent showings, with more preparation and possibly better projection, he may find a semiportable satisfactory.

Hundreds of county agents now are equipped with portable projectors. In most cases the funds have been furnished by the county farm bureau or other farmers' organizations. Other extension workers are making use of projection machines in school buildings, theaters, lodge halls, and other places so equipped. Some of the extension workers using portable machines have geared generators to their automobiles, furnishing the necessary current for the projector light and for the operation of the projector. Still others have a complete lighting equipment that they can transport from place to place.

A novel and effective way of using motion pictures in localities where they have never been shown before is in use in several States. A motor truck or trailer is equipped with a projector, reels of film, and a screen. Reaching a rural community, the screen is unpacked and hung up on the wall of a building. The motor truck is placed in position so that the projector will throw upon the screen. The engine of the truck is started in generating electric current, and at the appointed hour the "show" begins. Or, in inclement weather, the projector is taken from the truck and set up inside a schoolhouse or other building.

The department, on request, will furnish further information on these methods of showing motion pictures.

Choice Between Projectors.

The purchaser of a projector should remember that there are two kinds of electric current. "Direct current" is described as a steady or continuous flow of electric power. "Alternating current" runs in cycles of so many pulsations to the second. Some projectors are made to run on one kind of current and some on the other. Some of the smaller projectors, however, are manufactured with motors that can be run on either current. This sort of motor undoubtedly is the best for a projector that is to be operated in different communities.

Larger projectors are lighted by an arc formed by the contact of two carbons through which current is passed. Recently there has been great development in incandescent lights, with the result that incandescents are taking the place of arc lights in the smaller machines, and where not so much brilliancy is required, or where the distance from the projector to the screen is not so great.

These are points that the purchaser of a projector must consider before he decides on his machine. Catalogues and detailed information can be obtained from the various manufacturers of projectors.

State and local regulations concerning the use of motion-picture projectors are so varied that no general statements can be made. The operator, of course, must familiarize himself with the regulations in his community.

Good Screen Important.

With his films and his projector at hand, the next essential for the operator is a surface upon which to throw his picture. This surface is called a screen. Screens may be anything from a blank, whitewashed wall to a specially prepared and highly reflective surface of the kind used in theaters.

Best results are obtained when an opaque screen of good quality is permanently stretched in a frame. This is a simple matter, of course, when the screen is never moved from the auditorium to which it belongs, and even in the case of traveling motor truck projectors. The field worker, traveling from place to place, can hardly carry a framed screen with him, but he is likely to get satisfactory results if he uses a piece of white canvas coated with kalsomine or other white coating formula. Such a screen can be folded, or, better, it can be rolled and transported conveniently.

Lacking a screen designed for the purpose, the projectionist must depend upon a bedsheet or tablecloth or a light-colored wall. All of these have been used with some degree of success.

Safe Handling of Films.

The film used in Department of Agriculture positives is the standard-width inflammable kind, although purchasers who so desire may obtain prints on either the standard-width or narrow-width slow-burning film.

Films are delivered to the user in protective metal cans and boxes that are judged safe by the Interstate Commerce Commission and the United States postal authorities. They should be kept in the cans and boxes until the hour for projection arrives. Then one reel should be taken from its can and its box and projected. When it has been projected the reel should be replaced in its can and its box and kept there until an opportunity to rewind it—in the cases when it should be rewound.

Most small projectors use incandescent lamps that do not generate enough heat to ignite the film, even though the film be held stationary in the path of the light. That is why some small projectors can be stopped and a single picture can be held on the screen, like a lantern slide. Larger projectors use arc lamps of greater power and greater heat, but they are equipped with devices that shield the film from the heat when the mechanism halts.

It is possible for these protective devices to fail, and if the operator has not followed the simple rule of shifting or turning off his light, the film is likely to burn for a few inches—until the flame reaches rollers that stop its progress. It is also conceivable that the flame might pass these rollers and get into the film magazines, but even in such an exceptional case there is no great danger. Film burns rapidly, and a small extinguisher or water probably would fail to put out such a flame; sand might be successful. Therefore, a good thing to have near is a bucket of sand, with a scoop. Another good thing is a noninflammable mat that can be thrown over the machine, completely covering it. If the film breaks in the projector, all current leading to it should be cut off at once.

However, the percentage of fires resulting from the handling or projection of films is very small. Careless smoking, according to authorita-



In a negative film the lights and shadows are the reverse of normal.

tive reports, is responsible for more than half of them. The film user who prohibits smoking near his films, keeps his films in the containers provided for that purpose, does not place his films near a radiator or a stove, and understands the workings of his projector, need not be apprehensive.

Good Care of Films.

When films leave the Department of Agriculture laboratory they are in good condition. They are expected to be returned in good condition with allowance for wear. They should be returned not rewound, to facilitate inspection. Borrowers who return films in badly damaged condition will be held responsible, and if the offense is repeated the privilege of borrowing will be withdrawn from them.

Ordinary care will prevent bad damage. The most common damage comes when the projector's sprocket wheels do not engage the film perforations properly, with the result that the film jumps from the wheels and is torn or gashed. The careful operator will guard against such accidents. Breaks in the film come in most cases from loops that are smaller than they should be. A break is not necessarily serious. It may be repaired easily, by splicing (joining with cement), care being taken that the frame-lines and perforations agree exactly. If the operator is not equipped for splicing he should not attempt any other mode of repair. The use of pins or chewing gum to bind film is inexcusable.

Breaks need not cause great delay in projection. A good way of meeting the emergency is to put on a fresh take-up reel and thread the machine anew. Another good way is to run a few additional feet through the projector and "lap" or wind it with some of the film already gathered on the take-up reel. If the winding is tight the machine will start again, as if there had been no break.



The positive film is made from the negative shown opposite.

Terms the User of Motion Pictures Should Know.

Change-over: Where two projection machines are available, film is made ready for projection on one when the other has finished. When one machine is stopped and the other is started, the operation is called a "change-over." It is the change-over that gives the uninterrupted performances in the commercial theaters.

Educational film: Motion pictures possessing informative as well as some entertaining value.

Exchange: A commercial agency from which motion pictures may be bought or rented.

Film: A celluloid strip, coated on one side with a sensitive emulsion, upon which photographs are to be made; the developed negative and positive. The word is frequently used to indicate a certain motion picture or motion pictures in general; and it is also frequently used as a verb.

Focus (noun): The point where rays of light passing through the lens are assembled properly. The distance from the lens to the image thrown upon the screen is the focal distance.

Focus (verb): Adjustment of the lens in the projector so that the image upon the screen is clear.

Footage: Number of feet in a film.

Frame-line: The black line that divides the top of one image from the bottom of another. When motion pictures are being shown "off frame" the line may be seen on the screen.

Frame (noun): A single photograph in the roll of film. In standard film each such photograph is 1 inch wide by $\frac{3}{4}$ of an inch high, and there are 16 photographs to the foot. In ordinary projection 1 foot of film, or 16 distinct photographs, is thrown upon the screen each second. This rapid succession of images deceives the eye sufficiently to give the impression of actual motion.

Frame (verb): When the images in the film are not correctly aligned with the light in the projector—for instance, when the screen shows a man's legs and feet at the top and his trunk and head at the bottom—the operator moves a lever or some other contrivance to make the images register perfectly. This operation is called "framing."

Joining: Cementing together parts of a film.

Leader: Blank film at the beginning of a reel, placed there to aid the operator in threading the projector. Such film at the end of the reel is called a trailer or tail piece.

Legends, titles, subtitles, leaders or captions: The interpretative words that explain the scenes.

Lens: In a projector, glass that focuses upon the screen the rays of light from the lamp.

Loop: An all-important element in projection. Loops are slack places left in the film at certain points when it is threaded through the projector, so that it can be jerked down one frame at a time without being damaged.

Multiple reel: A picture produced in more than one of the thousand-foot reels.

Negative: Film exposed in a camera and then developed by chemical reaction so that the image is brought out and made permanent. The blacks and whites of the image, however, are reversed. When a positive print is made from the negative, the blacks and whites are placed in their true relation.

Perforations: The holes on both edges of the film. In standard film there are four perforations on both sides of each frame.

Photoplay: A story told in pictured action instead of words.

Positive: Film exposed to the action of light behind a negative, and then developed. A positive is the opposite of a negative. It is the image in the positive that is thrown upon the screen by the projector.

Print: A positive film. As many prints as are desired, barring accidents, can be made from a negative.

Printing: The process of acting upon positive film by passing it through a machine in company with a negative against a source of light.

- Projector:** A machine containing a powerful source of light and a mechanism that passes film between the light and a lens, which magnifies the image from the film and throws it upon a screen. Each frame, or image, in the film, is halted for the fraction of a second in the path of light and is then moved on. This is called intermittent movement.
- Reel:** The spool upon which film is wound for use in projecting machines. A standard of film measurement, approximately 1,000 feet. The projection of one full reel requires, on the average, 15 minutes.
- Release:** To place a motion picture in distribution; the act of doing so; or, the motion picture concerned.
- Rewinder:** The mechanism that reverses the winding of a film so that the beginning of the film will lie on the outside of the roll, ready for projection.
- Safety shutter:** In a projector, the little door that falls between the lamp and the film when the machine stops or runs so slowly that there is danger of igniting the film.
- Screen:** The surface upon which the image is thrown.
- Shutter:** In projectors, the 2-wing or 3-wing revolving device that intercepts the light as the film is jerked down one frame at a time, and by multiplying the flickers on the screen tends to make them less apparent.
- Splice:** To join, by cementing, one piece of film to another. The union so made.
- Split reel:** A reel containing two or more subjects under different titles.
- Sprocket:** The revolving toothed wheel which moves the film through the projector by engaging the perforations.
- Take-up:** In a projector, the mechanism used in winding the film after it passes the projecting aperture.
- Thread:** To pass positive film through the projector so that when the machine is operated the images will be thrown upon the screen; and so that the film will be wound properly from one reel to another.
- Throw:** Distance from the projector to the screen.

DEPARTMENT OF AGRICULTURE FILMS

Available for Distribution.

In the following list the titles of films are arranged under the names of the bureaus that are authority for the subject matter. This does not mean, however, that a worker in any bureau should use films of his bureau only. For the sake of variety in programs, it is well to select films on subjects that come under the work of two or more bureaus.

Films released since April 1, 1920, are marked "New"; films revised since that date are so designated.

BUREAU OF ANIMAL INDUSTRY.

SHEEP AND WOOL.

Lambs from Range to Market...... 1 reel.

Ewes and lambs grazing on National Forests; lambs separated from ewes at end of season and taken to feeding yards for fattening; fattening of lambs on different feeds, and loading lambs on trains for market.

This reel largely duplicates "Grazing Industry on the National Forests."

From Wool to Cloth...... 3 reels.

Reel 1.—Wool sorted and weighed at warehouse. Buyers purchasing wool from sample clips.

Reel 2.—Lowell Textile School. Wool sorted by hand and cleaned and washed by machinery. Wool carded and wound by machines.

Reel 3.—Wool twisted into yarn of various grades, then woven into cloth. The 15 processes of shrinking, singeing, etc., through which the cloth is passed after weaving.

Sheep on the Farm series:

A Year with the Flock...... 2 reels.

Selecting a purebred ram and good grade ewes in the fall to start the flock; winter management; shepherd's spring duties—docking, shearing, dipping; sheep on summer pasture.

Wool and Lamb Marketing...... 1 reel.

How wool is handled, graded, and sold through community and county wool growers' associations; how lambs are graded by cooperative lamb marketing clubs.

Killing and Dressing Mutton for Home Use...... 1 reel.

Showing the proper way to kill, dress, and cut mutton and lamb.

POULTRY.

Selecting a Laying Hen...... 1 reel.

Culling the flock. Physical characteristics by which the good egg producer can be recognized.

Government Poultry Farm...... 3 reels.

Picturization of the Department of Agriculture's poultry work on its farm at Beltsville, Md.

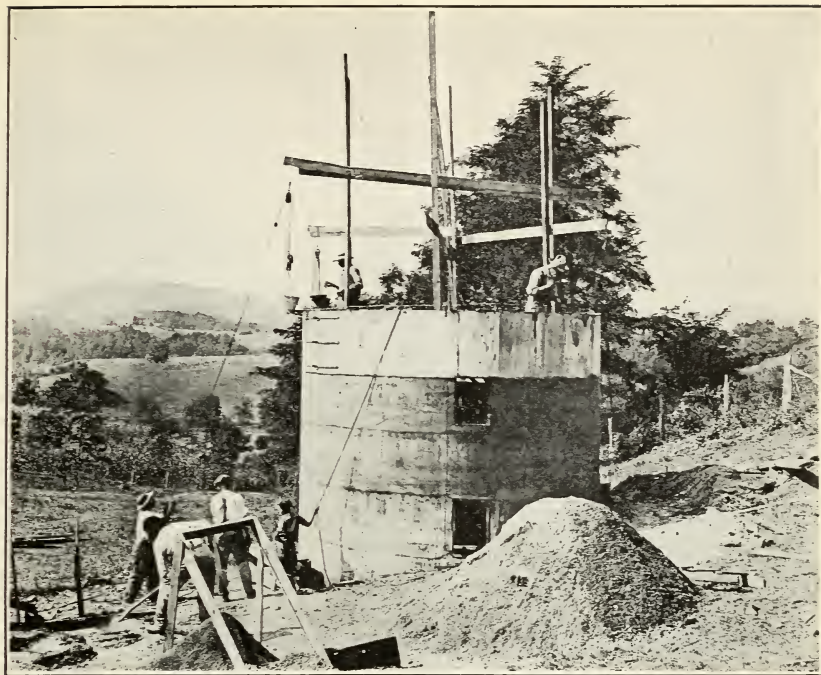
Reel 1.—Natural and artificial incubation of eggs and methods of handling; general view of the poultry farm; the brooders and pens in which young chicks are raised, how kept, cleaned, etc., and chicks in the pens.

Reel 2.—Houses and pens used for chicks as they grow older and reach maturity; chicks moved from one house to another, weighed; separation of cockerels and pullets.

Reel 3.—The use of a trap-nest, and the numbering and recording of eggs.

Embryology of the Egg (revised)...... ½ reel.

How the hen's fertile egg develops into the chick, and the infertile egg does not. A short picturization of the beginning of life.



Building a concrete silo—in a motion picture.

SWINE.

Control of Hog Cholera (revised)..... 1 reel.
Causes of hog cholera, the use of hog-cholera serum, methods of application and results, and proper sanitation as a remedy and a preventive.

Health for Hogs (new)..... 1 reel.
How portable colony hog houses help the hog keep himself clean, and self-feeders keep him from "making a hog of himself." Advantages of portable houses and self-feeders in producing fat, healthy hogs.

Uncle Sam's Pig Club Work..... 1 reel.
The formation of pig clubs among boys, and one boy's success in raising a prize hog.

CATTLE PARASITES.

(See also under Bureau of Entomology.)

Making the South Tick-Free (new)..... 1 reel.
The Federal and State cooperative campaign in the Southern States against the cattle fever tick; various stages of the destructive insect, and how it is being eradicated by means of the dipping vat.

Charge of the Tick Brigade (an animated cartoon)..... 1 reel.
Cattle attacked by ticks. Mortalities result. Mrs. Tick, in illustrated lecture, thanks cattle owners for not dipping cattle.

DAIRYING.

Swiss Cheese—Made in America (new)..... 1 reel.
Dairy Division methods as they are used at the Grove City (Pa.) Creamery, which is operated by the Government. Making cheese that formerly was largely imported.

American Roquefort Cheese—Made from Cow's Milk (new)..... 1 reel.
Work at the Grove City (Pa.) Creamery, using methods developed by the Dairy Division. How the secret of Roquefort cheese making has been solved and adapted to this country.



Part of the day of a Forest ranger whose work is shown in films.

Milk-Made Products (new)..... 1 reel.

Laboratory and factory methods of making dairy products, developed by the Dairy Division.

Milk and Honey..... 2 reels.

A dairy romance, in which methods of conducting a modern dairy are shown as part of the story.

Why Eat Cottage Cheese?..... 1 reel.

Mrs. Brown learns how cottage cheese is made from skim milk at a modern creamery and marketed, and how to use it in the home. Serves it to her family.

Construction of a Concrete Silo..... 1 reel.

All steps in the construction of a concrete silo.

Construction of a Wooden Hoop Silo..... 1 reel.

Method of construction of a silo built of wooden hoops and staves.

Cooperative Cow-Testing in Vermont..... 1 reel.

Work of cooperative cow-testing associations in increasing profits and improving dairy herds.

MISCELLANEOUS.

Types of Horses at the Washington Horse Show..... 2 reels.

Types and individual horses which won prizes at the Horse Show.

BUREAU OF PLANT INDUSTRY.

PRODUCTION.

(See also under Bureau of Markets.)

The How and Why of Spuds (new)..... 1 reel.

From producer to consumer. Commercial production of the born-and-raised-in-America potato, second only to wheat as a human food, as practiced with modern methods and machinery in Aroostook County, Me.

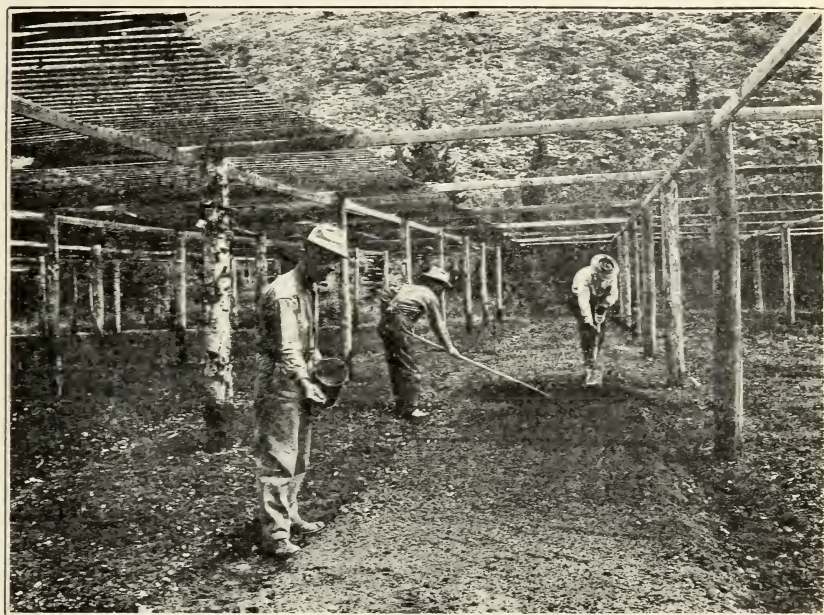
Home Gardening..... 2 reels.

Formerly entitled Feeding America from Its Own Back Yard. Proper methods for city and suburban vegetable gardens, and some examples of successful ones.

- Wheat Harvest in the Pacific Northwest**..... 2 reels.
Harvesting and thrashing operations on a big scale. Various types of labor-saving machinery, binders, headers, thrashers, and combined harvester thrashers.
- Strawberry Industry in Kentucky**..... ½ reel.
Cultivation of berry plants and picking berries. The sorting and handling, down to the time the fruit reaches the market.

DISEASES AND PESTS.

- The "Leak Disease" of Potatoes**..... 1 reel.
Part I. See Bureau of Markets, ½ reel.
Part II. The leak disease under the microscope. A technical microscopic study of the parasitic fungus *Pythium de Baryanum*.
- The Barbarous Barberry (an animated cartoon)**..... 1 reel.
Common barberry the cause of wheat rust. Science magnifies the rust germs and explains cause and effect.
- Bridge Grafting to Save Trees**..... ½ reel.
Trees girdled by rodents are saved by grafts bridged across the injury.



Helping nature renew the woodlands, as a film shows it.

White Pine Blister Rust series:

- The Story of White Pine (new)**..... 1 reel.
Eastern white pine from virgin forest to finished products; second growth; nursery planting; with special reference to the white pine blister rust, a serious disease introduced from Europe.
- Logging Eastern White Pine (new)**..... 1 reel.
Methods of logging and lumbering as practiced in Pennsylvania. Portable saw mills in New England; old-fashioned water-power mill of colonial days.
- Nature's Crop of White Pine (new)**..... 1 reel.
Second growth of white pine, which is largely replacing virgin timber in the East. White pine reclaiming waste lands, sandy soil and rocky pastures. A valuable crop made more valuable by care and cultivation.
- White Pine—A Paying Crop for Idle Lands (new)**..... 1 reel.
Reforestation of idle lands with white pine, showing nursery practice, field planting, and care of plantations.

- White Pine, the Wood of Woods (new)**..... 1 reel.
 Eastern white pine from log to lumber, illustrating its wide range of usefulness. Lumber yards, stave and box factory; making screen doors, window screens, boxes, barrels, and buckets.

STATES RELATIONS SERVICE.

- Apples and the County Agent**..... 3 reels.

The true story of a farmer who, unprogressive and unsuccessful at first, is later enabled through the assistance of the agricultural extension service to introduce modern methods in production and marketing of apples, and thereby becomes successful and prosperous. Extension methods and progressive practices as applied to the apple industry are shown in the course of the story.

- The Home Demonstration Agent**..... 3 reels.

Her work with women and girls and its effects on the whole community, but particularly upon Mrs. Meade and her daughter, Mabel, who have known none of the benefits of home demonstration work; the new agent's arrival; how she organizes the county; she demonstrates home conveniences; the girls' canning club; the egg circle; the community kitchen; the county encampment and picnic; the exhibit of club work at the county fair; Mabel finally wins first prize, a trip to the college short course; activities at the short course; several years later, Mabel a home maker.

- American Home Canning in France (new)**..... 1 reel.

Demonstrations of American home canning methods given in 1919 at the agricultural college at Grignon, France, by specialists from the United States Department of Agriculture at the request of the French Ministry of Agriculture.

- Fresh Fish—Can It (new)**..... ½ reel.

Fish freshly caught is canned in a stream pressure canner on the banks of the stream; the ideal way—taking the canner to the fish.

- Drying Fruits and Vegetables in the Home**..... 1 reel.

Types of driers, methods of drying, packing, conditioning, and labeling tomatoes, carrots, and other root vegetables, corn, berries, and apples, and a luncheon of dried delicacies attended by the wives of cabinet officers.

- Club Champions at Camp Vail**..... 2 reels.

A day at a boys and girls' club encampment held in connection with an interstate fair, featuring exhibits, demonstrations, and judging contests by teams which have won State championship honors.

- Cured by Canning**..... 1 reel.

How illness and idleness in a Middle West rural community were banished by the first mother-daughter canning club, which converted products formerly wasted into canned food.

- The Red Cross Pig Club**..... 1 reel.

How, through organization under the county agent, Carroll County, Miss., helped win the war by producing and sending, in one train-load, to the St. Louis market, \$100,000 worth of pigs and donating 10 per cent of the proceeds to the Red Cross.

- Helping the Farmers of Tomorrow**..... 2 reels.

The trip to Washington and sightseeing tours of children who won State prizes for raising fruit, vegetables, and poultry in club work.

FOREST SERVICE.

SCENERY AND RECREATION.

- Pack Train Trip Through the Washington National Forest (new)**..... 1 reel.

A trip with mules, a tent, and a canoe across the northern Cascades. Fording mountain streams and crossing glaciers.

- Summer Fun on Western National Forests (revised)**..... reel.

Formerly National Forests as Recreation Grounds. Fishing, boating, riding, and motor-ing in some of the National Forests of the West. Restocking the lakes and streams with fish fry from the State hatcheries.

- Summer Home on the Sierra National Forest (new)**..... 1 reel.

Anybody can rent land from the Government and build a summer home on one of 151 National Forests. How it is done.
 Combined with—

- Water for Cities from National Forests (revised).**

Formerly Bull Run—Portland Water Supply. How the water supply of Portland is protected on the Oregon National Forest.

- Trails that Lure (new)**..... 1 reel.
Over the Columbia River Highway, with its view of mountains and river, into the gorge of the Columbia with its many waterfalls; leaving the highway at Eagle Creek Camp Grounds for a hike up the Eagle Creek trail to Wahtum Lake, in the Oregon National Forest.
- Camera Hunting on the California National Forests**..... 1 reel.
An early spring deer hunt—with a camera.
- Vacation Days on the National Forests**..... 1 reel.
Camping on the Crater and Wasatch; Boy Scouts' summer camps on the Santa Fe and Oregon; a summer school on the Sierra.
- Wichita National Forest and Game Preserve**..... 3 reels.
See description under "Biological Survey."
- Sentinels of the Sunset (new)**..... 1 reel.
Scenes near and on Mount Lowe and Mount Wilson, Calif.; views of the Mount Wilson Observatory.
Also includes—
- Summer Camps for Cities (revised)**.
Showing a municipal camp maintained in the Angeles National Forest.
- National Forests of Colorado series:*
- Little Journeys in the National Forests of Colorado (new)**..... 1 reel.
Scenic trips from Denver and Colorado Springs into some of the 16 National Forests of Colorado. Pike's Peak, the Garden of the Gods, Mount Manitou, and Carroll Lake.
- Outdoor Life in the Rockies—National Forests of Colorado (new)**..... 1 reel.
Through Glenwood Canyon in the Holy Cross and White River National Forests. Hanging Lake; Glenwood Springs; pack trip to Snowmass Lake; by auto to Big Thompson Canyon.
- A Sportsman's Paradise—National Forests of Colorado (new)**..... 1 reel.
Fishing in Trappers Lake, Cache La Poudre Canyon, and the North Fork of White River; a bear hunt. A visit to the Twin Sisters fire lookout.
- Wonderland of Canyons and Peaks (new)**..... 1 reel.
The Royal Gorge trip; Leadville, Lake Creek; across the Continental Divide to the Mount of the Holy Cross.
- National Forests of New Mexico series:*
- Old Santa Fe, the Gateway of the Santa Fe National Forest**..... 1 reel.
Points of historic interest in Old Santa Fe.
- De Vargas Day in Santa Fe, N. Mex.**..... 1 reel.
Religious festivals celebrating historic events. Types of Spanish architecture.
- The Santa Fe National Forest**..... 2 reels
A trip by horseback to points of interest in the Santa Fe Forest. Fishing in the Pecos; a visit to the Panchuela ranger station; skiing in June; a trip to Spirit Lake and to the Continental Divide.
- The Prehistoric Bandelier**..... 2 reels.
The Bandelier National Monument in the Santa Fe National Forest, where the ruined, silent cities, containing more than 20,000 cliff dwellings, give evidence of a high type of civilization. Visits to ancient and modern Indian pueblos.
- When Cowboys Get Together**..... 1 reel.
A reproduction of sports of frontier days by cowboys of to-day, showing some of the sports that have made western horsemanship famous the world over and that furnish material for many tales when the cowboys get back on the ranges of the National Forests.

FOREST FIRE PREVENTION.

- Winged Guardians of the Forest (new)**..... 1 reel.
Patrolling for forest fires with airplanes and balloons; also used in spotting fires. Scouting for fires from March Field, Calif. Fire is discovered. Soldiers and forest rangers to the rescue. Methods of fire fighting.
- Trailing Forest Fires (new)**..... 1 reel.
Auto tours and detours through the National Forests; across the Continental Divide over the Cochetopa Pass Road; enjoying the scenic views until a forest fire is discovered; some of the causes of forest fires.

- What a Careless Hunter in the Woods Can Do.** 1 reel.
A forest fire started by a careless hunter, the methods of the Government's fire fighters, and the destruction of a town by the fire.

LUMBERING AND GRAZING.

(See also under Bureau of Plant Industry.)

- Lumbering Western Yellow Pine on the Coconino National Forest, Ariz.** 1 reel.
Formerly Lumbering Yellow Pine in the Southwest. Cutting the trees under Government regulations; hauling the logs to railroads, and shipping them to mills where they are cut into lumber.
- Lumbering Pine on the Arapaho National Forest, Colo.** 1 reel.
Formerly Lumbering Lodgepole Pine. How Government timber is cut under regulation.
- Making Railroad Ties on the Wasatch National Forest, Utah.** 1 reel.
Formerly Lodgepole Pine for Railroad Ties. Pines cut into railroad ties.
- Grazing Industry on the National Forests.** 1 reel.
Cattle and sheep grazing on the National Forests of the West.

FOREST PRODUCTS WORK.

- Work of the Forest Products Laboratory.** 1 reel.
Work at the Forest Products Laboratory, Madison, Wis., in timber testing; the preservative treatment of timber, the manufacture of paper from wood waste; methods of service to manufacture.
- War Work of the Forest Products Laboratory.** 2 reels.
War discoveries useful now to farming and industry. Wood tests for airplane construction. Waterproof glues and laminated wooden construction developed.

MISCELLANEOUS.

- The Work of a Forest Ranger.** 1 reel.
The varied life and duties of forest rangers on the National Forests.
- Reforestation on the National Forests.** 1 reel.
Formerly Tree Planting on the National Forests. Planting seedlings and sowing tree seeds in denuded areas of National Forests.

BUREAU OF ENTOMOLOGY.

INSECTS ATTACKING ANIMALS.

- Stable Flies and Their Control (new).** 1 reel.
Methods of protecting animals from the stable fly, an annoying and harmful insect that appears in many parts of the United States.
- Screw Worms—How to Fight Them (new).** 1 reel.
Harm done by the screw-worm fly, and how the insect is fought successfully in the Southwestern States.
- Horn Flies—Pests of Cattle (new).** 1 reel.
How to prevent the breeding of horn flies and thus reduce the harm done by their attacks on cattle. Methods of control used in the Southwestern States.
- Poultry Pests and Their Control.** 2 reels.
Mites, fowl ticks, chiggers, and poultry lice; poultry infested with them and methods for their control.

INSECTS ATTACKING PLANTS.

- The Most Wonderful Insect in the World (new).** 1 reel.
The periodical cicada, or 17-year locust. Its long disappearance under the ground, and its appearance after 17 years for a short period of aerial life.
- Cotton's Worst Enemy—The Pink Boll Worm.** 1 reel.
Timely now because of the recent discovery of this dangerous insect in Louisiana and Texas. Shows clean-up, under the direction of the Federal Horticultural Board, of 10,000 infested acres in Texas. Sweeping of fields and burning of plants. Fumigation of imported cotton. Distinction between pink boll worm and boll weevil.
- Safeguarding the Citrus Fruit.** 2 reels.
The fumigation of citrus fruit trees in southern California. Different methods used.

Preventing Spread of the Gipsy and Brown-Tail Moths. 5 reels.

The gipsy and brown-tail moths in all stages, their depredations on trees in New England, and methods of fighting them. Inspection of timber to prevent caterpillar traveling; spraying trees. Propagation and spread of parasite which feeds on moth larvæ.

A one-reel popular condensation of the five reels on gipsy and brown-tail moths is now in preparation.

BUREAU OF MARKETS.

COTTON.

(See also under Bureau of Entomology.)

Cotton—Planting and Cultivation. 2 reels.

How the South grows its great crop.

Cotton—Ginning and Marketing. 2 reels.

Types of cotton and bales.

Cotton Manufacture. 4 reels.

Carding and weaving cloth.

WHEAT.

(See also under Bureau of Plant Industry.)

Wheat—Sack Handling. 1 reel.

Various steps in handling sacked grain in the Pacific Northwest.

This and the next two films show methods of handling from the time the great wheat fields of the Pacific Northwest are harvested until the wheat leaves an eastern port for shipment overseas.

Wheat—Bulk Handling. 1 reel.

Showing the rapidity with which great quantities of grain can be handled by this new and more economical method and the vastness of the operations.

Wheat—Transportation and Storage. 1 reel.

From the northwestern plains to Duluth, from there by water to Buffalo, thence to Baltimore for shipment overseas.

Wheat Grading Under Federal Supervision. 1 reel.

Tests to which wheat is subjected when graded under Federal supervision.

MISCELLANEOUS.

Western Cantaloupe Industry. 1 reel.

Harvesting and marketing cantaloupes in the Turlock and Imperial Valley regions of California.

The Potato Industry in the California Delta Region. 1 reel.

Potato harvesting and marketing in the California Delta region.

The Leak Disease of Potatoes. ½ reel.

Part 1. The "leak disease" in the California Delta region. Its cause—injury to potatoes in digging. Its prevention—proper methods of harvesting, handling, and grading.

Cooperative Berry Growing in Pacific Northwest. 2 reels.

Cooperative growing, purchasing, marketing, and canning in a community in the Northwest.

To Market! To Market! (new). 1 reel.

Types of public markets in the United States, and how the housewife may economize by going to them with a market basket.

BUREAU OF CHEMISTRY.

Dust Explosions in Mills and Elevators. 2 reels.

Some of the causes, results, and means of preventing grain dust explosions in mills and elevators; laboratory tests showing the inflammability of grain dusts and the velocity of propagation; results of five dust explosions which occurred during the summer of 1919; suction sweeps, revolving dampers, and other preventive devices.

Explosive Dusts (new). 1 reel.

A briefer presentation, in less technical form, of the same subject covered in "Dust Explosions in Mills and Elevators."

Dust Explosions in Thrashing Machines. 2 reels.

Explosions and fires in thrashing machines, their causes and results. Use of preventive devices—suction fans, fire extinguishers, wire systems. Experiments with dust from starch, flour, sugar, coal, and sulphur made by Bureau of Chemistry and Bureau of Mines.

BUREAU OF PUBLIC ROADS.

- Granite Paving and Curbing**..... 3 reels.
Reels 1 and 2.—The story of granite paving and curbing from the quarry to the finished pavement and curb in the large cities. Defects in granite pavements and their causes. Specimens of good and bad paving.
Reel 3.—Paving blocks.
- Bituminous Macadam Road Construction**..... 1 reel.
 Construction of a bituminous macadam road in Maine.
- Cement and Concrete Tests**..... 1 reel.
 How cement is tested in briquettes and stone slabs tested for bridge building.
- Concrete Road Construction**..... 1 reel.
 Construction of a concrete post road in Ohio.
- Gravel Road Construction**..... 1 reel.
 Construction of a gravel road in Virginia.
- Macadam Road Construction**..... 1 reel.
 Construction of a macadam road in Maryland.
- Road Tests with Traction Dynamometer**..... 1 reel.
 Work in repairing and maintaining roads. Testing rock used for road and test of the machine which records wear of different weights on a road.
- Testing Rock to Determine its Value for Road Building**..... 1 reel.
 Drills and machines which are used to test rock for durability and toughness.

BIOLOGICAL SURVEY.

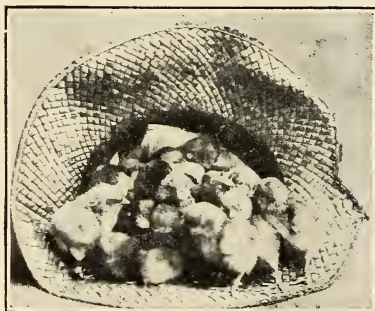
- The Wichita National Forest and Game Preserve**..... 3 reels.
Reel 1.—The Witchery of the Wichita. Weird rock formations and scenic wonders of this little-known forest; native birds.
Reel 2.—Bison on the Wichita. Including an Indian buffalo hunt.
Reel 3.—Wild turkey and deer on the Wichita.
- The Last Days of the Prairie Dog**..... 1 reel.
 The prairie dog in Arizona, the damage he does to farming, and the work being done by the Biological Survey toward the extermination of the pest.

OFFICE OF FARM MANAGEMENT.

- Help Wanted! To Feed the Nation (revised)**..... 1 reel.
 The need for city men to help harvest the crops of the farms so that the country will be fed; how they can help, tasks they can perform.
- Training Boys for Farm Service**..... 1 reel.
 A short course in farm practices taught city boys at summer agricultural training camps held at State agricultural colleges.

MISCELLANEOUS.

- Agricultural and Forest Resources of the United States**..... 1 reel.
 The position occupied by America in the world's output of plant, animal, and forest products.



"The End" of "Embryology of the Egg."

UNITED STATES DEPARTMENT OF AGRICULTURE
DIVISION OF PUBLICATIONS
WASHINGTON

PRESS SERVICE
PUBLICATIONS
MOTION PICTURES
EXHIBITS

NEW MOTION PICTURES

issued by the United States Department of Agriculture.

spectators.

Modern Concrete Road Construction
(Bureau of Public Roads)

1 reel

Approved methods of highway building by the use of concrete; some of the modern machinery and practices used in this work; a contrast is drawn between old-fashioned mud roads and modern highways; the ending is a race between a railway train and a motor truck on a concrete road.

UNITED STATES DEPARTMENT OF AGRICULTURE
DIVISION OF PUBLICATIONS
WASHINGTON

PRESS SERVICE
PUBLICATIONS
MOTION PICTURES
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NEW MOTION PICTURES

issued by the United States Department of Agriculture.

(This list, issued January 1, 1921, is a supplement to the complete list contained in Department Circular 114, "Motion Pictures of the U. S. Department of Agriculture," which gives the names of all motion pictures issued by this Department up to July 1, 1920, and describes the system under which films are distributed.

The number of copies of these pictures available for free distribution probably will not be sufficient to meet all demands. The attention of State agricultural colleges, extension organizations, and other institutions is called to the plan under which copies of Department of Agriculture films may be purchased at a cost of approximately \$40 for the standard reel of 1,000 feet.)

Goodbye, Boll Weevil
(Bureau of Entomology)

2 reels

Shows the calcium arsenate method of combating the boll weevil; various types of poisoning machinery; methods of application; tests of poisoning material made by the Federal government, and seizures of material condemned as unsafe for use; a story of the experience of four cotton growers runs through the picture.

A Plant Disease and How it Spreads
(Bureau of Plant Industry)

1 reel

A microscopic and field study of rhubarb blight, used as an example to show the workings of the minute organisms that cause plant diseases; about half of the scenes were photographed through a high-powered microscope; despite the technical subject the picture is suitable for use before non-technical spectators.

Modern Concrete Road Construction
(Bureau of Public Roads)

1 reel

Approved methods of highway building by the use of concrete; some of the modern machinery and practices used in this work; a contrast is drawn between old-fashioned mud roads and modern highways; the ending is a race between a railway train and a motor truck on a concrete road.

The Farm Bureau Comes to Pleasant View
(States Relations Service.)

2 reels

This picture and the four following picturize the organization of a rural community for farm bureau work and some of the good results obtained, especially for the farm women.

The first picture of the series shows how "Grandpa Little" got in touch with the extension agents and interested Pleasant View Community in the farm bureau organization; the preparation of a program of community work and the organization meeting, followed by a renewal of the community social life.

A Matter of Form
(States Relations Service)

1 reel

How the home demonstration agent, working through the farm bureau, helps the women of Pleasant View Community to do their own sewing; the making of dress forms; Mrs. Little's new clothes and the praise they won at the community style show.

Lavers and Liars
(States Relations Service)

1 reel

The "historic hen" brings a new rug to Mrs. Little's home and unites two communities in a work worth while; culling and other good poultry practices as explained by extension workers; community canning of the culls.

The Happier Way
(States Relations Service)

1 reel

Shows how the women of Pleasant View got in touch with labor-saving devices for household use; how a farm water system gave Mrs. Little time for real enjoyment of country life; and how other conveniences made farm life more attractive.

Food for Reflection
(States Relations Service)

2 reels

The need for a hot school lunch in the school at Pleasant View and how the women of the community raised money to buy and install the equipment. The operation of the hot school lunch and its beneficial results for the school children; weighing and measuring demonstrations; with the conclusion that "children are the best crop the farm produces."

Out of the Shadows

2 reels.

(Bureau of Animal Industry)

The appearance of animal tuberculosis on the farm of Henry Benton and its communication to his daughter, Mary, through the milk of a tuberculous cow. The clean-up of the farm and Benton's acquirement of a herd of cattle accredited as free from tuberculosis. Mary's departure for a sanitarium and her return, restored to health after three years, to join a happy family circle.

Garden Gold

1 reel.

(Bureau of Plant Industry)

John Jasper changes from a confirmed golfer to an enthusiastic gardener; community gardens maintained for public use by an American city and the benefit they gave the health and pocketbook of the Jasper family.



